What is claimed is:

[Claim 1] 1. An air sampler comprising:

an air moving arrangement disposed to be operable to move air over a sampling media, the air moving arrangement having an adjustable operating speed;

an integrated airflow sensor disposed to be in fluid communication with the air moving arrangement; and

a control system interfaced to the air moving arrangement, the control system operable to determine a measured airflow based at least in part on signaling from the integrated airflow sensor.

[Claim 2] 2. The air sampler of claim 1 wherein the control system further comprises a feedback control mechanism to maintain the measured airflow substantially in accordance with a target value.

[Claim 3] 3. The air sampler of claim 2 wherein the control system further comprises a controller disposed to receive the signaling and adjust an operating speed of the air moving arrangement based at least in part on the signaling.

[Claim 4] 4. The air sampler of claim 3 wherein the signaling comprises signals from two temperature sensors disposed within an air stream, wherein a difference in temperature indicated by the signals is indicative of airflow.

[Claim 5] 5. The air sampler of claim 3 wherein the signaling comprises a voltage which is indicative of airflow.

[Claim 6] 6. The air sampler of claim 2 wherein the signaling is provided at least in part by a mechanical linkage.

[Claim 7] 7. The air sampler of claim 3 wherein the signaling comprises a data stream.

[Claim 8] 8. The air sampler of claim 3 further comprising an external temperature sensor connected to the controller, and wherein the controller is operable to determine the measured airflow at least in part based on an external temperature reading.

[Claim 9] 9. The air sampler of claim 3 wherein further comprising a user display device connected to the controller operable to display the measured airflow.

[Claim 10] 10. The air sampler of claim 3 further comprising a user input device connected to the controller, and wherein the controller is further operable to adjust the target value based on user input.

[Claim 11] 11. The air sampler of claim 10 further comprising an external temperature sensor connected to the controller, and wherein the controller is operable to

determine the measured airflow at least in part based on an external temperature reading.

[Claim 12] 12. The air sampler of claim 2 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 13] 13. The air sampler of claim 3 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 14] 14. The air sampler of claim 8 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 15] 15. The air sampler of claim 11 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 16] 16. The air sampler of claim 1 wherein the control system further comprises a user input device to adjust the target airflow in response to user input.

[Claim 17] 17. The air sampler of claim 16 wherein the signaling comprises signals from two temperature sensors disposed within an air stream, wherein a

difference in temperature indicated by the signals is indicative of airflow.

[Claim 18] 18. The air sampler of claim 16 wherein the signaling comprises a voltage which is indicative of airflow.

[Claim 19] 19. The air sampler of claim 16 wherein the signaling is provided by a mechanical linkage.

[Claim 20] 20. The air sampler of claim 16 wherein the signaling comprises a data stream.

[Claim 21] 21. The air sampler of claim 16 further comprising an external temperature sensor connected to the controller, and wherein the controller is operable to determine the measured airflow at least in part based on an external temperature reading.

[Claim 22] 22. The air sampler of claim 16 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 23] 23. The air sampler of claim 18 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 24] 24. The air sampler of claim 20 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 25] 25. The air sampler of claim 21 further comprising an integrated sampling media assembly disposed to be in fluid communication with the integrated airflow sensor and the air moving arrangement.

[Claim 26] 26. The air sampler of claim 1 wherein the control system is further operable to determine standard airflow from the measured airflow.

[Claim 27] 27. The air sampler of claim 1 wherein the control system is further operable to store a history of environmental and sample related data.

[Claim 28] 28. The air sampler of claim 3 wherein the control system is further operable to determine standard airflow from the measured airflow.

[Claim 29] 29. The air sampler of claim 3 wherein the control system is further operable to store a history of environmental and sample related data.

[Claim 30] 30. The air sampler of claim 9 wherein the control system is further operable to determine standard airflow from the measured airflow.

[Claim 31] 31. The air sampler of claim 9 wherein the control system is further operable to store a history of environmental and sample related data.

[Claim 32] 32. A method of adjusting an operating speed for an air moving arrangement in an air sampler having an integrated airflow sensor, the method comprising:

calculating a measured airflow based, at least in part, on at least one of, signaling from the integrated airflow sensor, a null offset value for the integrated airflow sensor, a linearity characteristic for the integrated airflow sensor, and a current environmental reading;

comparing the measured airflow to a target value to obtain a result; and

adjusting the operating speed of the air moving arrangement based on the result to maintain the measured airflow substantially in accordance with the target value.

[Claim 33] 33. The method of claim 32 further comprising displaying the measured airflow.

[Claim 34] 34. The method of claim 32 further comprising changing the target value in response to user input.

[Claim 35] 35. The method of claim 32 wherein the calculating of the measured airflow is accomplished based in part on a current environmental reading comprising an external temperature reading.

[Claim 36] 36. The method of claim 34 wherein the calculating of the measured airflow is accomplished based in part on a current environmental reading comprising an external temperature reading.

[Claim 37] 37. Apparatus for adjusting an operating speed for an air moving arrangement in an air sampler to maintain a measured airflow, the apparatus comprising:

means for sensing airflow;

means for calculating the measured airflow based, at least in part, on at least one of, signaling from the means for sensing airflow, a null offset value, a linearity characteristic, and a current environmental reading;

means for comparing the measured airflow to a target value to obtain a result; and

means for adjusting the operating speed of the air moving arrangement based on the result to maintain the measured airflow substantially in accordance with the target value.

[Claim 38] 38. The apparatus of claim 37 further comprising means for displaying the measured airflow.

[Claim 39] 39. The apparatus of claim 37 further comprising means for changing the target value in response to user input.

[Claim 40] 40. The apparatus of claim 37 further comprising means for sensing an external temperature for use by the means for calculating.

[Claim 41] 41. The apparatus of claim 38 further comprising:

means for operating the air sampler for a plurality of sampling periods; and means for updating the measured airflow during one of the plurality of sampling periods based on a change in external temperature as indicated by the means for sensing the external temperature.

[Claim 42] 42. A method of operating an air sampler having an integrated airflow sensor, the method comprising:

obtaining signaling indicative of airflow from the integrated airflow sensor; calculating a standard airflow based, at least in part, on at least one of, the signaling from the integrated airflow sensor, a null offset value for the integrated airflow sensor, a linearity characteristic for the integrated airflow sensor, and a current environmental reading;
displaying the standard airflow on a display device.

[Claim 43] 43. The method of claim 42 further comprising adjusting the operating speed of an air moving arrangement based on user input in order to adjust the standard airflow.

[Claim 44] 44. The method of claim 42 wherein the calculating of the standard airflow is accomplished based in part on a current environmental reading comprising an external temperature reading.

[Claim 45] 45. The method of claim 43 wherein the calculating of the measured airflow is accomplished based in part on a current environmental reading comprising an external temperature reading.